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66. (new) The method of claim 61 wherein the sample is urine.

67. (new) The method of claim 61 further comprising amplifying the nucleic acids.

68. (new) An apparatus for amplifying nucleic acids comprising a capillary reaction vessel surrounded by a heatable metal layer.

REMARKS

Claims 1-35 have been cancelled from the application without prejudice or disclaimer of the subject matter claimed therein. Claims 36-68 have been added.

The written description is amended in several merely formal respects. For example, section headings have been added to conform the written description to the format suggested by 37 C.F.R. § 1.77. In addition, a "Description of the Drawings" section has been added to comply with 37 C.F.R. § 1.77. The amendments to the written description are fully supported by the specification as originally filed. No new matter has been added.

The new claims place the claims in the format preferred by the U.S. Patent and Trademark Office. For example, the claims have been reordered, so that all dependent claims are grouped together with claim to which they refer, as suggested by 37 C.F.R. § 1.75. In addition, all multiple dependent claims have been replaced by singly dependent claims. The amendments to the claims are fully supported by the specification as originally filed. No new matter has been added.

If Examiner is of the opinion that a telephone conference with expedite prosecution of the application, Examiner is encouraged to contact Applicants' undersigned representative.

Respectfully submitted,

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Clean Copy of Claims

36. An apparatus for detecting nucleic acids in a sample, comprising:

(a) a binding space for purifying the nucleic acids by immobilizing the nucleic acids and separating impurities,

(b) an amplification space for amplifying the nucleic acids comprising at least part of the binding space, and

(d) a detection space for detecting the nucleic acids.

37. The apparatus of claim 36 further comprising reagents for purifying, amplifying and detecting the nucleic acid.

38. The apparatus of claim 36, wherein the detection space comprises at least a part of at least one of the amplification space and the binding space.

39. The apparatus of claim 36, wherein at least one of the binding space and the amplification space comprises a capillary space.

40. The apparatus of claim 39 wherein the capillary space is a capillary reaction vessel surrounded by a heatable metal layer.

41. The apparatus of claim 39 wherein the capillary space is glass or polystyrene.

42. A method for detecting nucleic acids in a sample comprising:

(f) contacting the sample with a binding space to immobilize the nucleic acids,

(g) separating impurities from the immobilized nucleic acids,

(h) eluting the immobilized nucleic acids, to produce purified nucleic acids,

(i) amplifying the purified nucleic acids in an amplification space comprising at least part of the binding space to produce amplification products, and

(j) detecting the amplification products in a detection space.

43. The method of claim 42, wherein the detection space comprises at least a part of at least one of the amplification space and the binding space.

44. The method of claim 42, wherein at least one of the binding space and the amplification space comprises a capillary space.

45. The method of claim 42 wherein the immobilized nucleic acids are adsorbed to a glass surface.

46. The method of claim 42 wherein the purified nucleic acids are eluted from the binding space with a solution that comprises all the reagents required to amplify the purified nucleic acids.

47. The method of claim 42, wherein the temperature of the amplification space can be regulated by a thermostat.

48. The method of claim 47, wherein the amplification space is surrounded by a heatable metal layer.

49. The method of claim 42, wherein the sample comprises cells.

50. The method of claim 49 wherein the sample is lysed prior to step (a)

51. The method of claim 49, wherein the cells are bound to a polystyrene surface.

52. The method of claim 42, wherein steps (b)-(e) occur in a single reaction space.

53. The method of claim 42, wherein all steps occur in a closed device.

54. A method for lysing a matrix that comprises nucleic acids, the method comprising moving through a capillary space a lysis mixture comprising the matrix and a lysis reagent, and disupting the matrix to release the nucleic acids.

55. The method of claim 54, wherein the matrix that comprises nucleic acids comprises at least one of cells and cell fractions.

56. The method of claim 54, wherein the lysis reagent comprises at least one of a lytic enzyme and a chaotropic substance.

57. The method of claim 54, wherein the capillary space is at least one of a glass capillary and polystyrene capillary.

58. The method of claim 54, wherein the capillary space is a capillary coated with boron silicate.

59. The method of claim 54, wherein the matrix that comprises nucleic acids is passed several times through the capillary space.

60. The method of claim 54, wherein the volume ratio of the lysis mixture to the capillary space is larger than 10:1.

61. A method for isolating nucleic acids from a microorganism comprising contacting a sample containing one or more microorganisms with a polystyrene surface under conditions in which the microorganisms bind to

the polystyrene surface, separating unbound sample components, and separating the nucleic acids from the microorganisms.

62. The method of claim 61, wherein the conditions in which the microorganisms bind to the polystyrene surface include the addition of a salt to the sample.

63. The method of claim 61, wherein the polystyrene surface is a polystyrene capillary.

64. The method of claim 61, further comprising passing the sample several times over the polystyrene surface.

65. The method of claim 61 wherein the microorganism is Chlamydia.

66. The method of claim 61 wherein the sample is urine.

67. The method of claim 61 further comprising amplifying the nucleic acids.

68. An apparatus for amplifying nucleic acids comprising a capillary reaction vessel surrounded by a heatable metal layer.